

CD28

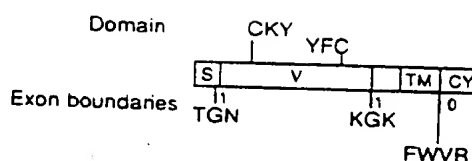
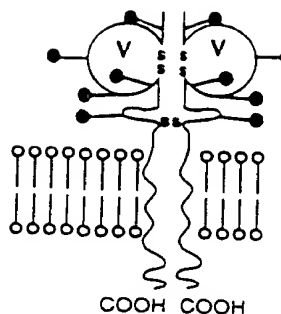
Tp44

Molecular weights
Polypeptide 23085

SDS PAGE
reduced 44 kD
unreduced, 90 kD

Carbohydrate
N-linked sites 5
O-linked unknown

Human gene location and size
2q33-q34; 36 kb¹



Tissue distribution

CD28 is expressed on most T lineage cells and plasma cells². Mature thymocytes have higher levels of CD28 than the immature cells and among peripheral T cells, 95% of CD4⁺ cells and 50% of CD8⁺ cells are positive². Activation of T cells leads to enhanced CD28 expression².

Structure

CD28 is a member of the IgSF and is expressed as a disulphide-linked homodimer^{2,3}. Human and mouse CD28 are 68% identical at the amino acid level⁴. CD28 is particularly similar to CTLA-4 with which it shares a ligand and probably a common ancestor in evolution⁴.

Function

The ligand for CD28 is B7^{5,6} which is expressed on activated B cells, suggesting an important role for CD28 in the interaction between T and B cells. Activation of T cells via CD28 has provided evidence for a CD28 signalling pathway which involves stabilization of cytokine mRNA levels and is separate from that used by the TcR-CD3 complex^{2,7}.

Database accession numbers

	PIR	SWISSPROT	EMBL/GENBANK	REFERENCE
Human		P10747	J02988	3
Mouse			M34563	4
Rat			X55288	8



Amino acid sequence of human CD28

MLRLLALNL FPSIQVTG	-1
NKILVKQSPM LVAYDNAVNL SCKYSYNLFS REFRASLHKG LDSAVEVCVV	50
YGNYSQQLQV YSKTGFNCDG KLGNESVTFY LONLYVNQTD IYFCKIEVMY	100
PPPYLDNEKS NGTIIHVKGK HLCPSPLFPG PSKPFWVLVV VGGVLACYSI	150
LVTVAFIIFW VRSKRSRLH SDYMNMTPRR PGPTRKHYQP YAPPRDFAAY	200
RS	202

References

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- 2 June, C.H. et al. (1990) Immunol. Today 11, 211-216.
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- 4 Gross, J.A. et al. (1990) J. Immunol. 144, 3201-3210.
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- 7 Lindsten, T. et al. (1989) Science 244, 339-42.
- 8 Clark, G.S and Dallman, M.J. (1992) Immunogenetics 35, 54-57.